

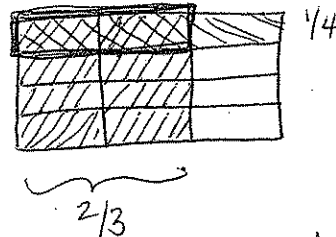
Multiplying Fractions

Remember: "of" means multiply

$$\frac{2}{3} \text{ of } 9 \quad \begin{array}{c} \text{O O O} \\ \text{O O O} \\ \text{O O O} \end{array} \quad \frac{2}{3} \times \frac{9}{1} = 6$$

Use a model: $\frac{1}{4}$ of $\frac{2}{3}$

$$\frac{1}{4} \times \frac{2}{3} = \frac{2}{12} = \frac{1}{6}$$



* Where the markings overlap is the numerator in your answer, the total # boxes is the denominator.

To multiply fractions - multiply numerator \times numerator
and denominator \times denominator.
- simplify your answer

$$\frac{3}{5} \times \frac{1}{2} = \frac{3}{10}$$

You can also cross cancel before multiplying by dividing by common factors.

$$\frac{1}{\cancel{4}_2} \times \frac{\cancel{2}^1}{3} = \frac{1}{6} \quad \frac{\cancel{4}^1}{5} \times \frac{\cancel{3}^1}{\cancel{4}_1} \times \frac{7}{9 \times 3} = \frac{7}{15}$$

$$\frac{1}{2} \times \frac{\cancel{3}^1}{\cancel{6}_2} \times \frac{\cancel{4}^1}{\cancel{2}_1 \times 5} \times \frac{\cancel{12}^1}{\cancel{6}_2 \times 2} = \frac{1}{20}$$

To multiply mixed #s - change to improper fractions first
then multiply as usual

$$2\frac{3}{4} \times 1\frac{1}{3} =$$

$$\frac{11}{4} \times \frac{4}{3} = \frac{11}{3} = 3\frac{2}{3}$$

Estimate
 $3 \times 1 = 3$

$$\left\{ \begin{array}{l} 4\frac{1}{8} \times 5\frac{1}{6} \\ \frac{33}{8} \times \frac{31}{6} = \frac{341}{24} = 14\frac{5}{24} \end{array} \right.$$

Estimate
 $4 \times 5 = 20$